REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-74 are presently active in this case, Claims 1, 10, 14, 21, 22, 24, 33, 42 and 46 having been amended and Claims 67-74 having been added by way of the present Amendment.

Claims 8, 17, 19, 20, 24-29, 32, 41, 49, 51, 52, 56-61, and 64 were indicated as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Applicant notes that new Claims 67-74 correspond to allowable Claims 8, 17, 19, 24, 41, 49, 51, and 56, respectively. Accordingly, the Applicant submits that Claims 67-74 are allowable.

In the outstanding Official Action, Claims 1-6, 9-15, 18, 33-39, 42-47, 65, and 66 were rejected under 35 U.S.C. 103(a) as being unpatentable over Eisaku (JP 10-206104) in view of Takei (U.S. Patent No. 5,565,718), Sawyer (U.S. Patent No. 3,376,578), and Chitayat (U.S. Patent No. 5,334,892). For the reasons discussed below, the Applicant requests the withdrawal of the obviousness rejection.

The basic requirements for establishing a *prima facie* case of obviousness as set forth in MPEP 2143 include (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, (2) there must be a reasonable expectation of success, and (3) the reference (or references when combined) must teach or suggest all of the claim limitations. Furthermore, the proposed modification cannot change the principle of operation of a reference.

The Applicant submits that a *prima facie* case of obviousness has not been established in the present case because (1) the references, either taken singularly or in combination, do

not teach or suggest all of the claim limitations, and (2) there is no suggestion or motivation to modify or combine the references.

Claim 1 of the present application recites a planar motor comprising a stator having a coil, and a mover having a magnetic flux generator, where the planar motor moves the mover on a movement plane by electromagnetic force which is generated between the coil and the magnetic flux generator. The planar motor further comprises a controller that detects position information of the mover based on information concerning an inductance of the coil. Accordingly, the coil recited in Claim 1 is not only contributing to the detection of the position information of the mover, but also is contributing to the generation of electromagnetic force used to move the mover. Similarly, Claim 33 recites a driving method that drives a planar motor having a configuration in which a coil is not only contributing to the detection of the position information of the mover, but also is contributing to the generation of electromagnetic force used to move the mover. Such configurations are not disclosed or suggested by the cited references either taken singularly or in combination.

Claim 10 of the present application recites a planar motor comprising a stator having a coil, and a mover having a magnet, where the planar motor moves the mover on a movement plane by electromagnetic force which is generated between the coil and the magnet. The planar motor further comprises a controller that controls a position of the mover based on information concerning an inductance of the coil. Accordingly, the coil recited in Claim 10 is not only contributing to the control of the position of the mover, but also is contributing to the generation of electromagnetic force used to move the mover. Similarly, Claim 42 recites a driving method that drives a planar motor having a configuration in which a coil is not only contributing to the control of the position of the mover, but also is contributing to the generation of electromagnetic force used to move the mover. Such

configurations are not disclosed or suggested by the cited references either taken singularly or in combination.

Claim 14 of the present application recites a stage unit comprising a driving unit including a mover that has a magnetic flux generator and is provided on a stage member, and a stator having a plurality of coils. The driving unit drives the stage member by electromagnetic force which is generated between the coils and the magnetic flux generator. The planar motor further comprises an inductance measurement unit to measure inductances of the coils, and a controller to control respective electric currents supplied to the plurality of coils based on measurement results by the inductance measurement unit. Accordingly, the coils recited in Claim 14 are not only contributing to the control of the electrical current, but also are contributing to the generation of electromagnetic force used to drive the stage member. Similarly, Claim 46 recites a driving method that drives a stage unit having a configuration in which coils are not only contributing to the control of electrical current, but also are contributing to the generation of electromagnetic force used to drive the stage member. Such configurations are not disclosed or suggested by the cited references either taken singularly or in combination.

The Eisaku reference describes a position detecting apparatus provided with a two-dimensional platen and detecting coils. The Eisaku reference describes the detection of the position of a moving body due to the movement of a moving element on the two-dimensional platen. The Official Action indicates that the Eisaku reference does not disclose a stator having a coil or a mover having a magnetic flux generator.

The Eisaku reference differs significantly from the inventions recited in independent Claims 1, 10, 14, 33, 42, and 46 of the present application. For example, the detecting coils described in the Eisaku reference are provided for the purpose of detecting a position of a moving element, and do not contribute to generating force used for moving the moving

element. Additionally, the Eisaku reference does not suggest a configuration in which the coils contribute to generating force used for moving the moving element. Furthermore, the Eisaku reference does not suggest at all measuring inductances of coils that contribute to generating force used for moving the moving element, and detecting a position of the moving element.

For the above reasons, the inventions recited in Claims 1, 10, 14, 33, 42, and 46 of the present application can be clearly distinguished from the invention of the Eisaku reference. The Applicant submits that the Takei, Sawyer, and Chitayat references does not supplement the deficiencies in the Eisaku reference, and do not provide a motivation to combine the references in the manner suggested in the Official Action. These reference do not teach a configuration in which a coil is not only contributing to the detection of the position information of the mover, but also is contributing to the generation of electromagnetic force used to move the mover, as set forth in Claims 1 and 33. Nor do these references teach a configuration in which a coil is not only contributing to the control of the position of the mover, but also is contributing to the generation of electromagnetic force used to move the mover, as set forth in Claims 10 and 42. Nor do they teach a configuration in which coils are not only contributing to the control of electrical current, but also are contributing to the generation of electromagnetic force used to drive the stage member, as set forth in Claims 14 and 46.

It is well settled that it is impermissible simply to engage in hindsight reconstruction of the claimed invention, using Applicant's structure as a template and selecting elements from the references to fill in the gaps. *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991). Recognizing, after the fact, that a modification of the prior art would provide an improvement or advantage, without suggestion thereof by the prior art, rather than dictating a conclusion of obviousness, is an indication of improper application of hindsight

considerations. Simplicity and hindsight are not proper criteria for resolving obviousness. *In re Warner*, 397 F.2d 1011, 154 USPQ 173 (CCPA 1967).

Accordingly, the Applicant respectfully requests the withdrawal of the obviousness rejection of Claims 1-6, 9-15, 33-39, 42-47, 65, and 66.

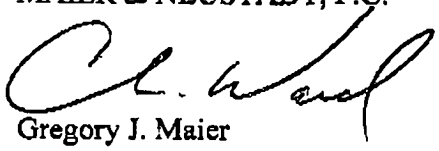
Consequently, in view of the above discussion, it is respectfully submitted that the present application is in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Finally, the attention of the Patent Office is directed to the change of address of Applicants' representative, effective January 6, 2003:

Oblon, Spivak, McClelland, Maier & Neustadt, P.C.
1940 Duke Street
Alexandria, VA 22314.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Gregory J. Maier
Attorney of Record
Registration No. 25,599

Christopher D. Ward
Registration No. 41,367

22850
Tel. (703) 413-3000
Fax. (703) 413-2220
(OSMMN 10/00)

GJM/CDW/brf
I:\atty\cdw\212190US2 PCT\am1.wpd

212190US2 PCT

Marked-Up Copy
Serial No.: 09/890,934
Amendment Filed on: March 4, 2003

IN THE CLAIMS

1. (Amended) A planar motor comprising: a stator having a coil; and a mover having a magnetic flux generator, the planar motor moving the mover on a movement plane by electromagnetic force which is generated between the coil and the magnetic flux generator, further comprising:

a controller that detects position information of the mover based on information concerning an inductance of the coil, the inductance varying in accordance with the relative-position relation between the stator and the mover.

10. (Amended) A planar motor comprising: a stator having a coil; and a mover having a magnet, the planar motor moving the mover on a movement plane by electromagnetic force which is generated between the coil and the magnet, further comprising:

a controller that controls position of the mover based on information concerning an inductance of the coil, the inductance varying in accordance with the relative-position relation between the stator and the mover.

14. (Amended) A stage unit comprising:

a stage member moving on a movement plane;

a driving unit comprising: a mover that has a magnetic flux generator and that is provided on the stage member and a stator having a plurality of coils, the driving unit driving

the stage member by electromagnetic force which is generated between the coils and the magnetic flux generator;

an inductance measurement unit to measure inductances of the coils; and

a controller to control respective electric currents supplied to the plurality of coils based on measurement results by the inductance measurement unit.

21. (Amended) An exposure apparatus comprising:

an illumination system sending out illumination light for exposure; and

a stage unit according to claim 13 on which an object to be arranged in a path of the illumination light is mounted.

22. (Twice Amended) An exposure apparatus comprising:

an illumination system sending out illumination light for exposure; and

a stage unit according to claim 14, on which an object to be arranged in a path of the illumination light is mounted.

24. (Twice Amended) An exposure apparatus comprising:

an illumination system sending out illumination light for exposure; and

a stage unit according to claim 19, on which an object to be arranged in a path of the illumination light is mounted.

33. (Amended) A driving method that drives a planar motor comprising: a stator having a coil; and a mover having a magnetic flux generator, so as to move the mover on a movement plane by electromagnetic force which is generated between the coil and the magnetic flux generator,

wherein position information of the mover is detected based on information concerning an inductance of the coil, the inductance varying in accordance with the relative-position relation between the stator and the mover.

42. (Amended) A driving method that drives a planar motor comprising: a stator having a coil; and a mover having a magnet, so as to move the mover on a movement plane by electromagnetic force which is generated between the coil and the magnet,

wherein position of the mover is controlled based on information concerning an inductance of the coil, the inductance varying in accordance with the relative-position relation between the stator and the mover.

46. (Amended) A driving method that drives a stage unit comprising a stage member moving on a movement plane and a driving unit comprising a mover which has a magnetic flux generator and which is provided on the stage member and a stator having a plurality of coils and driving the stage member by electromagnetic force which is generated between the coils and the magnetic flux generator,

wherein respective electric currents supplied to the plurality of coils are controlled based on results of measuring inductances of the plurality of coils.

67. (New)

68. (New)

69. (New)

70. (New)

71. (New)

72. (New)

73. (New)

74. (New)